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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,295	08/20/2003	Sanjay Gupta	END920030025	6666
7590 09/11/2007 Andrew M. Calderon Greenblum and Bernstein P.L.C. 1950 Roland Clarke Place Reston, VA 20191			EXAMINER RAYYAN, SUSAN F	
			ART UNIT 2167	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/644,295

Applicant(s)

GUPTA, SANJAY

Examiner

Susan F. Rayyan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,10-13,16-18 and 20-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10-13,16-18 and 20-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Response to Arguments

1. Applicant's arguments filed June 15, 2007 have been fully considered but they are not persuasive.

Applicant argues Yoshiyama does not teach marking a second set of columns within a view of a database as if the second set of columns were already sorted and categorized prior to actual sorting and categorizing of the second set of columns. Examiner finds Yoshiyama does teach this limitation in a manner similar to the Applicant's claim language. Yoshiyama at paragraph 35, lines 6-15 teaches determining whether an index satisfies retrieval conditions. If an index does not exist which satisfies the retrieval conditions a new index is generated. The retrieval conditions which are not met and not used to generate the new index would correspond to a marking of a second set of columns as already sorted. Not indexing is similar to the applicant's claimed marking. Not indexing is marking by default.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Shakib teaches

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sorting and categorizing a first set of columns within a view of the database at co1.3, lines 65, bridging to, co1.4, line 3 and Figure 5 (database view).

Shakib does not explicitly teach marking a second set of columns within the view as if the second set of columns were already sorted and categorized prior to actual sorting and categorizing of the second set of columns, the second set of columns including all columns exclusive of the first set of columns and sorting and categorizing at least one column of the second set of columns in response to performing a query on the at least one column and the second set of columns is visible as collapsed data. Yoshiyama does teach this limitation at parag. 35 lines 6-15 to speed up data retrieval at parag 10 and sorting and categorizing at least one column of the second set of columns in response to performing a query on the at least one column and the second set of columns is visible as collapsed data (at parag. 35) to speed up data retrieval at parag10. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to speed up data retrieval at parag. 10.

Shakib teaches a database. Shakib and Yoshiyama do not explicitly teach a non-relational database. Gajda does teach a non-relational database at paragraph 2, line3 are an important tool for storage and management of information for businesses. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Shakib and Yoshiyama with a non-relational database for storage and management of information for businesses (paragraph 2, lines 1-2).

Shakib and Yoshiyama and Gajda do not explicitly teach ... assigning the first set of columns to a portion of a cache and ... in another portion of the cache Wilkes does

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teach this limitation at parg. 62, 64 and fig. 2. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to improve the rate at which the insertion point in the cache metadata structure may be found at parg. 65, lines 1-3.

DETAILED ACTION

2. Claims 1,3-7,10-13,16-18,20-25 are pending. Claims 2,8-9,14-15,26-29 are canceled.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1,3-7,10-13,16-18,20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shakib et al (US 5,752,025) and Yoshiyama et al (US 200210120617) and US 2001100156428 issued to Kimberly Lynn Gajda at al (Gajda") and Wilkes et al (US 2003,0088739).**

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As per claim 1 Shakib teaches:

sorting and categorizing a first set of columns within a view of the database at co1.3, lines 65, bridging to, co1.4, line 3 and Figure 5 (database view).

Shakib does not explicitly teach marking a second set of columns within the view as if the second set of columns were already sorted and categorized prior to actual sorting and categorizing of the second set of columns, the second set of columns including all columns exclusive of the first set of columns and sorting and categorizing at least one column of the second set of columns in response to performing a query on the at least one column and the second set of columns is visible as collapsed data . Yoshiyama does teach this limitation at parg. 35 lines 6-15 to speed up data retrieval at parg 10 and sorting and categorizing at least one column of the second set of columns in response to performing a query on the at least one column and the second set of columns is visible as collapsed data (at parg. 35) to speed up data retrieval at parg10. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to speed up data retrieval at parg. 10.

Shakib teaches a database. Shakib and Yoshiyama do not explicitly teach a non-relational database. Gajda does teach a non-relational database at paragraph 2, line3 are an important tool for storage and management of information for businesses. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Shakib and Yoshiyama with a non-relational database for storage and management of information for businesses (paragraph 2, lines 1-2).

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Shakib and Yoshiyama and Gajda do not explicitly teach ... assigning the first set of columns to a portion of a cache and ... in another portion of the cache Wilkes does teach this limitation at parg. 62, 64 and fig. 2. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to improve the rate at which the insertion point in the cache metadata structure may be found at parg. 65, lines 1-3.

As per claim 3 same as claim arguments above and Yoshiyama teaches:

including establishing a mini-index indexing the at least one column of the second set of columns at parg. 46, lines 11-17.

As per claim 4 same as claim arguments above and Yoshiyama teaches:

including accessing the mini-index to provide increased performance at parg. 46, lines 11-17.

As per claim 5 same as claim arguments above and Yoshiyama teaches

: including monitoring parameters of the mini-index, and as a result, performing one of deleting, updating, and recreating the mini-index at parg. 46, lines 11-17.

As per claim 6 same as claim arguments above and Yoshiyama teaches:

wherein the parameters include at least one of a number of sorted columns, a number of categorized columns, a number of records that can be accessed in a view, an average number of records per category, and an average number of records per hierarchy at parg. 46, lines 15-17.

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As per claim 7 Shakib teaches:

sorting and categorizing a first set of columns within a view of the ... database at col.3, lines 65, bridging to, col.4, line 3, Figure 5, database view).

Shakib does not explicitly teach marking a second set of columns within the view as if the second set of columns were already sorted and categorized prior to actual sorting and categorizing of the second set of columns, the second set of columns including all columns exclusive of the first set of columns and sorting and categorizing at least one column of the second set of columns in response to performing a query on the at least one column and the second set of columns is visible as collapsed data. Yoshiyama does teach this limitation at parg. 35 lines 6-15 to speed up data retrieval at parg 10 and sorting and categorizing at least one column of the second set of columns in response to performing a query on the at least one column and the second set of columns is visible as collapsed data at parg. 35 to speed up data retrieval at parg 10. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to speed up data retrieval at parg. 10.

Shakib teaches a database. Shakib and Yoshiyama do not explicitly teach a non-relational database. Gajda does teach a non-relational database at paragraph 2, line 3 are an important tool for storage and management of information for businesses. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Shakib and Yoshiyama with a non-relational database for storage and management of information for businesses (paragraph 2, lines 1-2).

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Shakib and Yoshiyama and Gajda do not explicitly teach ... including maintaining the first set of columns in a portion of cache and ... including maintaining the at least one column of the second set of columns in another portion of cache Wilkes does teach this limitation at parag. 62, 64 and fig. 2. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to improve the rate at which the insertion point in the cache metadata structure may be found at parag. 65.

As per claim 10 same as claim arguments above and Yoshiyama teaches:

establishing a mini-index indexing the at least one column of the second set of columns at parag. 46, lines 11-17.

As per claim 11 same as claim arguments above and Yoshiyama teaches:

including accessing the mini-index to provide increased performance at parag 46, lines 11-17.

As per claim 12 same as claim arguments above and Yoshiyama teaches:

including monitoring parameters of the mini-index, and as a result, performing one of deleting, updating, and recreating the mini-index at parag. 46, lines 11-17.

As per claim 13 same as claim arguments above and Yoshiyama teaches:

wherein the parameters include at least one of a number of sorted columns, a number of categorized columns, a number of records that can be accessed in a view, an average number of records per category, and an average number of records per hierarchy at parag. 46, lines 15-17.

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As per claim 16 same as claim arguments above and Wilkes teaches:

... further including sizing the another portion of cache depending on the size of the at least one column of the second set of columns. Wilkes does teach this limitation at parg. 62, 64 and fig. 2.

As per claim 17, same as claim arguments above and Shakib teaches:

... permits clients to see the second set of columns and to issue a query on the at least one column of the second set of columns (at column 3, lines 43-49, remaining set of fields are used for viewing and sorting and column 4, line 1, indexes are created based upon user demand).

Claim 18 is rejected based on the same rationale as claim 1 and Wilkes teaches ... including a component to sort and categorize the at least one column of the second set in a portion of a cache and assign the first set of columns to another portion of the cache. Wilkes does teach this limitation at parg. 62, 64 and fig. 2

As per claim 20 same as claim arguments above and Yoshiyama teaches:

establishing a mini-index indexing the at least one column of the second set of columns at parg. 46, lines 11-17.

As per claim 21, same as claim arguments above and Shakib teaches;

Including a component to access the mini-index by a server (column 4, lines 42-49).

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As per claim 22 same as claim arguments above and Yoshiyama teaches:

monitor parameters of the mini-index, and as a result, performing one of deleting, updating, and recreating the mini-index at parg. 46, lines 11-17.

As per claim 23 same as claim arguments above and Yoshiyama teaches:

wherein the parameters include at least one of a number of sorted columns, a number of categorized columns, a number of records that can be accessed in a view, an average number of records per category, and an average number of records per hierarchy at parg. 46, lines 15-17.

As per claim 24, same as claim arguments above and Shakib teaches:

... permits clients to see the second set of columns and to issue a query on the at least one column of the second set of columns (at column 3, lines 43-49, remaining set of fields are used for viewing and sorting and column 4, line 1, indexes are created based upon user demand).

Claim 25 is rejected based on the same rationale as claim 1.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan F. Rayyan whose telephone number is 571-272-1675. The examiner can normally be reached on M-F, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SN
SR
9/4/2007

Julio S. Wassum
Primary Examiner
Art Unit 2167